Appl. No. 10/579,880
Amdt. Dated July 23, 2009
Reply to Office Action of January 27, 2009

••• REMARKS/ARGUMENTS •••

The Official Action of January 27, 2009 has been thoroughly studied. Accordingly, the changes presented herein for the application, considered together with the following remarks, are believed to be sufficient to place the application into condition for allowance.

Together with the present amendment, applicants are submitting two (2) Replace Sheets of drawings for Figs. 8 and 9. In these Replacement Sheets of drawings Figs. 8 and 9 have been corrected to change the broken line arrows which indicate how the PC and NetMIC exchange information in their respective inbound and outbound ports. The changes to these figures take into consideration the Examiner's comments on pages 2-3 of the Office Action.

Also by the present amendment, each of independent claims 1 and 7 have been amended to more clearly describe that the terminal-side IP connection establishing unit establishes an inbound socket connection for receiving control signals from the host computer and an independent outbound socket connection for sending digital signals to the host computer, and that the host-side IP connection establishing unit establishes an inbound socket connection for receiving digital signals from the analog signal input terminal and an independent outbound socket connection for sending control signals to the analog signal input terminal.

Support for this change to the independent claims can be found on in paragraphs [0016]-[0017] of applicants' specification.

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Other changes to the claims include the changes suggested by the Examiner and changes that are commensurate to the changes made to the independent claims.

Inasmuch as the changes presented herein address objections and issues raised by the Examiner under 35 U.S.C. §112, it is believed the changes are properly enterable after Final rejection since they reduce issues that could go to appeal.

Accordingly, entry of the drawing corrections and the changes to the claims are respectfully requested.

On page 2 of the Office Action the Examiner has objected to the drawings under 37 CFR §1.83(a). Under this objection to the drawings the Examiner has note that in Figs. 8 and 9 the inbound and outbound socket connections are inconsistently illustrated.

In response to the objection to the drawings submitted herewith are two Replacement Sheets of drawing which include Figs. 8 and 9. In these Replacement Sheets of drawings Figs. 8 and 9 have been corrected to change the broken line arrows which indicate how the PC and NetMIC exchange information in their respective inbound and outbound ports. The changes to Figs. 8 and 9 are believed to address and overcome the outstanding objection to the drawings.

On page 4 of the Office Action the Examiner has objected to claim 9 under 37 CFR §1.75(c) as being improperly dependent.

In response to this objection, claim 9 has been changed herein to depend from claim 7.

On page 5 of the Office Action the Examiner has objected to claims 1, 7 and 16.

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It is noted that the claims have been amended herein to overcome the outstanding objection of the claims.

Claims 1-16 stand rejected under 35 U.S.C. §112, second paragraph as being indefinite.

Under this rejection the Examiner has indicated that the limitations that refer to the inbound and outbound socket connections need to more clearly described. In particular, the Examiner has proposed two options for amending the claims.

The Examiner will note that the claims have been amended to refer to the device to which the socket connections reside together with the type of signal/data that is transferred by the socket connections.

The amendments to the claims are belied to address and overcome the outstanding rejection of the claims under 35 U.S.C. §112, second paragraph.

Claims 1-16 remain pending in this application.

Claims 1-8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2004-0039462 to Chen and further in view of Quinton "An Introduction to Socket Programming," 1997, and U.S. Patent No. 6,137,485 to Kawai et al.

Claims 5, 6, 12 and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Chen and further in view of Quinton, and Kawai et al. and further in view of U.S. Patent No. 5,896,099 to Yamauchi.

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Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Chen and further

in view of Quinton, and Kawai et al. and further in view of Poon et al. "Performance of Buffer Base

Quest-Reply Scheme for VoD Streams Over IP Networks," 2000.

For the reasons set forth below, it is submitted that all of the pending claims are allowable

over the prior art of record and therefore, each of the outstanding prior art rejections should properly

be withdrawn.

Favorable reconsideration by the Examiner is earnestly solicited.

The Examiner has relied upon Chen as teaching:

...an analog input system that uses an analog signal input terminal (Chen: Figure 2,
item 28 depicts analog mic input terminal as an option) to convert an analog signal
into a digital signal and send the converted digital signal to a host computer via a
network (Chen: Figure 3 depicts the sound card for receiving digital signals; Figure 7
depicts the wireless mic; Figure 6 depicts a device that handles both input and output
analog processing; See also [0021] and abstract), wherein
    the analog signal input terminal (Chen: Figure 7, item 29 depicts the mic
adapter) comprises:
    an analog signal input unit (Chen: Figure 7, item 80 depicts the analog input
port);
    an A/D converter for converting the analog signal into a digital signal (Chen:
Figure 7, item 82);
    a network controller for controlling data transmission and reception (Chen:
Figure 7, item 86);
    a terminal-side connection establishing unit for establishing two connections,
that is, an inbound connection and an outbound connection, to and from the host
computer (Chen: Figure 7, items 85 and 86; Figure 6, items 78 and 74; See also
[0027] which provides for bidirectional communication between the device and the
host sound card);
    a control signal processing unit for receiving control signals from the host
computer (Chen: [0027] provides for receiving control signals from the host
computer);
    a signal transmitting unit for sending digital signals (Chen: Figure 7, items 85
and 86; Figure 6, items 75 and 78; See also [0027]); and wherein

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the host computer comprises at least:

a network adapter for controlling data transmission and reception (Chen: Figure 3, items 46 and 40);

a host-side connection establishing unit for establishing two connections, that is, an inbound connection and an outbound connection to and from the analog signal input terminal (Chen: Figure 3, item 46 depicts a transceiver which inherently transmits and receives; Figure 6 and [0027] provide the remote device can handle inbound and outbound data, providing the host can as well);

a control signal processing unit for sending control signals (Chen: Figure 3, items 44 and 48);

an application processing unit for executing an application and allowing the application to use the said digital signals (Figure 3, items 24 and 30; See also [0018]).

The Examiner concedes that:

Chen does not teach wherein the connections are with the Internet Protocol using sockets. Nor does Chen teach wherein the control signals are related to at least a start request and a stop request. Nor does Chen teach wherein the digital signals are transmitted based on received control signals. Nor does Chen teach wherein the host computer has an IP connection disconnecting unit for disconnecting the inbound socket connection and the outbound socket connection.

The Examiner has accordingly relied upon Quinton:

in a similar field of endeavor, teaches wherein the connections are over IP and use sockets (Quinton: pg 1, introduction) and wherein the host computer has an IP connection disconnecting unit for disconnecting the inbound socket connection and outbound socket connection (Quinton: pg 11, line 1).

The Examiner takes the position that:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Quinton for communication with IP sockets. The teachings of Quinton, when implemented in the Chen system, will allow one of ordinary skill in the art to communicate to the remote devices using IP packets and reading/writing sockets.

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In their amendment filed October 7, 2008 applicants argued that one of the significance

features of the present invention lies in the establishment of both inbound and outbound socket

connections.

Applicants noted that paragraphs 0072-0075 of their specification expound on the

significance of this difference between the present invention and the prior art:

[0072]
   In the present invention, two sockets, an outbound socket specific to
outbound information and an inbound socket specific to inbound information, are
provided between the personal computer 10 and analog signal input/output device 30.
The outbound socket sends a command or data as an outbound message. A
receiving port with a port number, for example, 47474 is provided on the analog
signal input/output device 30.

[0073]
   Then, an inbound message is used to return a status as a response. The
inbound socket sends a command or data as an inbound message. Then, an outbound
message is used to return a status. A receiving port with a port number, for example,
41414 is provided on the personal computer 10.

[0074]
   These sockets are connected as follows: when the outbound socket is
connected by the IP connection establishing unit 52 in the personal computer 10, the
inbound socket is connected by the IP connection establishing unit 62 in the analog
signal input/output device 30.

[0075]
   In the present invention, as described above, the inbound socket and
outbound socket are connected independently. When the inbound socket and
outbound socket are selectively used to send and receive data and commands as
described below, therefore, stable signal input/output is achieved without data
transfer congestion.

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 As can be understood the establishment of both inbound and outbound socket connections according to the present invention reduce delays in data transmission by allocating 2 separate ports for inbound and outbound transmission.

On page 7 of the present Office Action the Examiner has stated that applicants argument that the combined teachings of Chen and Quinton do not teach "establishment of inbound and outbound socket connections to reduce delays in data transmission by allocated 2 separate ports for inbound and outbound transmission" was based upon features "i.e., separate port associations for the inbound verses outbound data flow" that were not recited in the rejected claims.

As noted above, independent claims 1 and 7 have been amended to more clearly describe that the terminal-side IP connection establishing unit establishes an inbound socket connection for receiving control signals from the host computer and an independent outbound socket connection for sending digital signals to the host computer, and that the host-side IP connection establishing unit establishes an inbound socket connection for receiving digital signals from the analog signal input terminal and an independent outbound socket connection for sending control signals to the analog signal input terminal.

It is believed that the changes to the independent claim require establishing separate port associations for the inbound verses outbound data flow.

Neither Chen nor Quinton disclose, appreciate or render obvious this feature of applicants' invention.

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Chen makes use of bidirectional communication, however the result associated with Chen's

approach would involve data transmission delays - the very problem that the present invention is

concerned with solving.

The Examiner has relied up Kawai:

> ...in a similar field of endeavor, teaches wherein the control signals are related to at
> least a start request and a stop request (Kawai: col 11, line 53-65; See also Figures
> 15A and 15B) and wherein the digital signals (Kawai's video transmission) are
> transmitted based on received control signals (Kawai: col 11, line 53-col 12, line
> 28).

Kawai teaches the use of control signals in Figs. 15A and 15B and their use for starting and

stopping the transmission of video recording.

Kawai doe not teach control signals that are sent via either inbound or outbound connections,

depending which is the optimal route as depicted in applicants' Figs. 8 and 9.

The Examiner's reliance upon Poon et al. and Yamauchi does not address or overcome the

distinctions between applicants' claimed invention and the primary and secondary references.

Based upon the above distinctions between the prior art relied upon by the Examiner and the

present invention, and the overall teachings of prior art, properly considered as a whole, it is

respectfully submitted that the Examiner cannot rely upon the prior art as required under 35 U.S.C.

§103 to establish a *prima facie* case of obviousness of applicants' claimed invention.

It is, therefore, submitted that any reliance upon prior art would be improper inasmuch as the

prior art does not remotely anticipate, teach, suggest or render obvious the present invention.

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It is submitted that the claims, as now amended, and the discussion contained herein clearly show that the claimed invention is novel and neither anticipated nor obvious over the teachings of the prior art and the outstanding rejection of the claims should hence be withdrawn.

Therefore, reconsideration and withdrawal of the outstanding rejection of the claims and an early allowance of the claims is believed to be in order.

It is believed that the above represents a complete response to the Official Action and reconsideration is requested.

The prior act cited by the Examiner on pages 14-15 of the Office Action has been noted. This prior art is not deemed to be particularly pertinent to applicant's claimed invention.

If upon consideration of the above, the Examiner should feel that there remain outstanding issues in the present application that could be resolved, the Examiner is invited to contact applicant's patent counsel at the telephone number given below to discuss such issues.

To the extent necessary, a petition for an extension of time under 37 CFR §1.136 is hereby made. Please charge the fees due in connection with the filing of this paper, including extension of

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time fees, to Deposit Account No. 12-2136 and please credit any excess fees to such deposit account.

Respectfully submitted,

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